PATENT ABSTRACTS OF JAPAN

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(71)Applicant : ADVANCED DISPLAY:KK

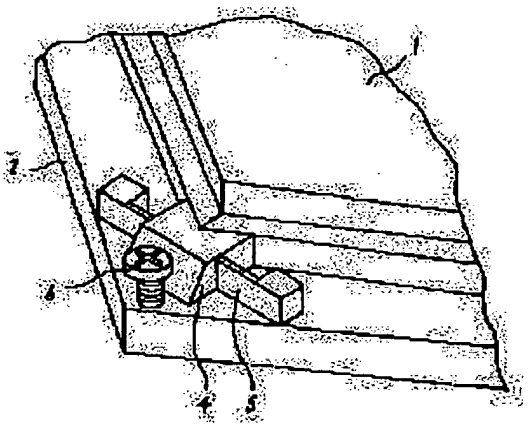
(72)Inventor : NISHIDA YOSHIHIDE

(54) FIXING DEVICE FOR SUBSTRATE AND LIQUID CRYSTAL DISPLAY DEVICE PROVIDED THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide the fixing device of a substrate capable of fixing the substrate in a supporting part and a liquid crystal display device in which a liquid crystal panel is fixed to a plastic frame and it does not move in a liquid crystal display device.

SOLUTION: A surface supporting the corner part of a substrate (liquid crystal panel) 1 and a movable body 4 having the tapered plane formed at a side opposite to supporting part are provided at remaining corners where the projected part is not provided of a supporting member (plastic frame) 2 and the substrate (liquid crystal panel) 1 is fixed to the supporting member (plastic frame 2) by being pressed against the projected part while pressing the tapered plane by using a pusher 5.



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CLAIMS

[Claim(s)]
[Claim 1]An attachment component which has heights with which a part of buildup area holding a substrate and side of a substrate are compared, A fixing device of a substrate provided with a pusher fixed to the above-mentioned attachment component by being arranged on a buildup area of the above-mentioned attachment component, and the whole surface's sliding a movable body compared by the above-mentioned substrate and the above-mentioned movable body over a buildup area of the above-mentioned attachment component, and pushing the above-mentioned substrate against heights of the above-mentioned attachment component.
[Claim 2]A fixing device of the substrate according to claim 1, wherein a substrate is a quadrangle, Misumi compares it to heights of an attachment component and remaining corners are compared by movable body.
[Claim 3]A fixing device of the substrate according to claim 2, wherein a movable body has a field holding a corner of a substrate, and a field where it is formed in an opposite hand of this field, and a pusher is engaged.
[Claim 4]A liquid crystal panel which pinched a liquid crystal material between two glass substrates which counter, and was formed in quadrangular shape, A frame which has heights with which Misumi of a buildup area holding the above-mentioned liquid crystal panel and a liquid crystal panel is compared, A liquid crystal display provided with a pusher fixed by being arranged at the above-mentioned frame, sliding a movable body compared in a remaining corner of the above-mentioned liquid crystal panel, and the above-mentioned movable body over a buildup area of the above-mentioned frame, and pushing the above-mentioned liquid crystal panel against above-mentioned Rehm's heights.
[Claim 5]A fixing device or the liquid crystal display according to claim 4 of a substrate given in any 1 paragraph of claim 1-3, wherein a pusher is a general-purpose screw thread screwed on

an attachment component.

[Claim 6]The liquid crystal display according to claim 4, wherein pushers are the heights provided in a front frame attached to a frame so that an edge of a liquid crystal panel may be covered.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to the fixing device of substrates, such as a liquid crystal panel with which it is equipped, for example in the liquid crystal display.
[0002]
[Description of the Prior Art]Drawing 4 and drawing 5 are the perspective views and top views showing the conventional mounting structure in the case of equipping with a liquid crystal panel in a liquid crystal display. The plastic frame in which 1 holds a liquid crystal panel and 2 holds the liquid crystal panel 1 in drawing 4 and 5, TCP by which 7 is connected with a front frame and 8 is connected with the liquid crystal panel 1 (Tape-Carrier-Package), Heights for 9 to insert in the liquid crystal panel 1 provided in the four corners of the plastic frame 2, the back light unit by which 10 is constituted from the plastic frame 2, a lamp, and a transparent material, and 11 are printed circuit boards. The heights 9 formed in the four corners of the plastic frame 2 are inserted in and equipped with the liquid crystal panel 1.
[0003]
[Problem(s) to be Solved by the Invention]Since wearing of the liquid crystal panel to the conventional liquid crystal display is constituted as mentioned above, Since the location tolerance of the heights 9 provided in the outside dimension common difference and the plastic frame 2 of the liquid crystal panel 1 is considered and the heights 9 of the plastic frame 2 are attached, When a crevice arose between the liquid crystal panel 1 and the heights 9 and vibration and a shock were added to a liquid crystal display, in order that the liquid crystal panel 1 might move within a liquid crystal display, there were problems -- the terminal area of liquid crystal panel 1 and TCP8 is disconnected.
[0004]This invention was made in order to solve the above problems, and it can fix to a plastic frame the fixing device of the substrate which can fix a substrate to an attaching part easily,

and a liquid crystal panel, and an object of an invention is to provide the liquid crystal display which a defect produces by neither vibration nor a shock.

[0005]

[Means for Solving the Problem]An attachment component which has heights with which a part of a buildup area and the side of a substrate which a fixing device of a substrate concerning this invention holds a substrate are compared, It is arranged on a buildup area of an attachment component, the whole surface slides a movable body compared by substrate and a movable body over a buildup area of an attachment component, and it has a pusher fixed to an attachment component by pushing a substrate against heights of an attachment component. A substrate is a quadrangle, Misumi compares it to heights of an attachment component, and remaining corners are compared by movable body. A movable body has a field holding a corner of a substrate, and a field where it is formed in an opposite hand of this field, and a pusher is engaged. A liquid crystal panel which a liquid crystal display pinched a liquid crystal material between two glass substrates which counter, and was formed in quadrangular shape, A frame which has heights with which Misumi of a buildup area holding a liquid crystal panel and a liquid crystal panel is compared, It is arranged at a frame, a movable body compared in a remaining corner of a liquid crystal panel and a movable body are slid over a buildup area of a frame, and it has a pusher fixed by pushing a liquid crystal panel against heights of a frame. A pusher is a general-purpose screw thread screwed on an attachment component. Pushers are the heights provided in a front frame attached to a frame so that an edge of a liquid crystal panel may be covered.

[0006]

[Embodiment of the Invention]

Below embodiment 1. explains about a figure the fixing device of the substrate (this embodiment liquid crystal panel) which is the 1 embodiment of this invention. Drawing 1 and drawing 2 are the perspective views and sectional views showing the fixed portion of the liquid crystal panel of this invention. The attachment component in which 1 holds a substrate (liquid crystal panel) and 2 holds the liquid crystal panel 1 in a figure (plastic frame), They are the heights by which 3 was provided in Misumi of the plastic frame 2, and the movable body constituted so that it could be slid on 4 over the buildup area of the plastic frame 2, It is installed in a remaining corner in which the heights 3 are not formed in the four corners of the plastic frame 2, and has a taper surface in the field holding the corner of the liquid crystal panel 1, and its opposite hand. It is constituted so that the flat spring in which 5 supports the movable body 4, and 6 may be screwed on the tapped hole formed in the plastic frame 2 using the general-purpose screw thread with which it is the pusher which engaged with the taper surface of the movable body 4, and sulcus cruciatus stuck to the head here. Next, immobilization of the liquid crystal panel 1 by this embodiment is explained. By inserting in the liquid crystal panel 1

according to the heights 3 first provided in Misumi of the plastic frame 2, and then screwing the pusher 6 on the plastic frame 2, when equipping the plastic frame 2 with the liquid crystal panel 1, The taper surface of the movable body 4 pushes the liquid crystal panel 1 against the heights 3 in response to horizontal power to the plastic frame 2, and, as a result, the liquid crystal panel 1 is fixed to the plastic frame 2.

[0007]Also in the case where the liquid crystal panel 1 was fixed to the plastic frame 2, and vibration and a shock are added to a liquid crystal display since the substrate was fixed to the attaching part according to this invention, The liquid crystal panel 1 cannot move within a liquid crystal display, but can prevent breakage of the liquid crystal panel 1, and an open circuit of a terminal area with an actuator.

[0008]Although the general-purpose screw thread was used for the pusher 6 in the embodiment 2. embodiment 1, The heights 6a are formed in the position corresponding to the taper part of the movable body 4 of the front frame 7 attached to the plastic frame 2 so that the edge of the liquid crystal panel 1 may be covered, as shown in drawing 3, By putting the front frame 7 on the liquid crystal panel 1, when the heights 6a push the taper surface of the movable body 4, the liquid crystal panel 1 is fixed to the plastic frame 2. Even if it does in this way, the same effect as Embodiment 1 is acquired.

[0009]

[Effect of the Invention]As mentioned above, according to this invention, a substrate is easily fixable to an attaching part. Since a liquid crystal panel is fixable to a plastic frame, neither vibration nor movement within the liquid crystal display of the liquid crystal panel by a shock can arise, but defects, such as breakage of a liquid crystal panel and an open circuit of a terminal area with an actuator, can be prevented, and a reliable liquid crystal display can be provided.

[Translation done.]

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TECHNICAL FIELD

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PRIOR ART

[Description of the Prior Art]Drawing 4 and drawing 5 are the perspective views and top views showing the conventional mounting structure in the case of equipping with a liquid crystal panel in a liquid crystal display. The plastic frame in which 1 holds a liquid crystal panel and 2 holds the liquid crystal panel 1 in drawing 4 and 5, TCP by which 7 is connected with a front frame and 8 is connected with the liquid crystal panel 1 (Tape-Carrier-Package), Heights for 9 to insert in the liquid crystal panel 1 provided in the four corners of the plastic frame 2, the back light unit by which 10 is constituted from the plastic frame 2, a lamp, and a transparent material, and 11 are printed circuit boards. The heights 9 formed in the four corners of the plastic frame 2 are inserted in and equipped with the liquid crystal panel 1.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]Since wearing of the liquid crystal panel to the conventional liquid crystal display is constituted as mentioned above, Since the location tolerance of the heights 9 provided in the outside dimension common difference and the plastic frame 2 of the liquid crystal panel 1 is considered and the heights 9 of the plastic frame 2 are attached, When a crevice arose between the liquid crystal panel 1 and the heights 9 and vibration and a shock were added to a liquid crystal display, in order that the liquid crystal panel 1 might move within a liquid crystal display, there were problems -- the terminal area of liquid crystal panel 1 and TCP8 is disconnected.
[0004]This invention was made in order to solve the above problems, and it can fix to a plastic frame the fixing device of the substrate which can fix a substrate to an attaching part easily, and a liquid crystal panel, and an object of an invention is to provide the liquid crystal display which a defect produces by neither vibration nor a shock.

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MEANS

[Means for Solving the Problem]An attachment component which has heights with which a part of a buildup area and the side of a substrate which a fixing device of a substrate concerning this invention holds a substrate are compared, It is arranged on a buildup area of an attachment component, the whole surface slides a movable body compared by substrate and a movable body over a buildup area of an attachment component, and it has a pusher fixed to an attachment component by pushing a substrate against heights of an attachment component. A substrate is a quadrangle, Misumi compares it to heights of an attachment component, and remaining corners are compared by movable body. A movable body has a field holding a corner of a substrate, and a field where it is formed in an opposite hand of this field, and a pusher is engaged. A liquid crystal panel which a liquid crystal display pinched a liquid crystal material between two glass substrates which counter, and was formed in quadrangular shape, A frame which has heights with which Misumi of a buildup area holding a liquid crystal panel and a liquid crystal panel is compared, It is arranged at a frame, a movable body compared in a remaining corner of a liquid crystal panel and a movable body are slid over a buildup area of a frame, and it has a pusher fixed by pushing a liquid crystal panel against heights of a frame. A pusher is a general-purpose screw thread screwed on an attachment component. Pushers are the heights provided in a front frame attached to a frame so that an edge of a liquid crystal panel may be covered.
[0006]
[Embodiment of the Invention]
Below embodiment 1. explains about a figure the fixing device of the substrate (this embodiment liquid crystal panel) which is the 1 embodiment of this invention. Drawing 1 and drawing 2 are the perspective views and sectional views showing the fixed portion of the liquid crystal panel of this invention. The attachment component in which 1 holds a substrate (liquid crystal panel) and 2 holds the liquid crystal panel 1 in a figure (plastic frame), They are the

heights by which 3 was provided in Misumi of the plastic frame 2, and the movable body constituted so that it could be slid on 4 over the buildup area of the plastic frame 2, It is installed in a remaining corner in which the heights 3 are not formed in the four corners of the plastic frame 2, and has a taper surface in the field holding the corner of the liquid crystal panel 1, and its opposite hand. It is constituted so that the flat spring in which 5 supports the movable body 4, and 6 may be screwed on the tapped hole formed in the plastic frame 2 using the general-purpose screw thread with which it is the pusher which engaged with the taper surface of the movable body 4, and sulcus cruciatus stuck to the head here. Next, immobilization of the liquid crystal panel 1 by this embodiment is explained. By inserting in the liquid crystal panel 1 according to the heights 3 first provided in Misumi of the plastic frame 2, and then screwing the pusher 6 on the plastic frame 2, when equipping the plastic frame 2 with the liquid crystal panel 1, The taper surface of the movable body 4 pushes the liquid crystal panel 1 against the heights 3 in response to horizontal power to the plastic frame 2, and, as a result, the liquid crystal panel 1 is fixed to the plastic frame 2.

[0007]Also in the case where the liquid crystal panel 1 was fixed to the plastic frame 2, and vibration and a shock are added to a liquid crystal display since the substrate was fixed to the attaching part according to this invention, The liquid crystal panel 1 cannot move within a liquid crystal display, but can prevent breakage of the liquid crystal panel 1, and an open circuit of a terminal area with an actuator.

[0008]Although the general-purpose screw thread was used for the pusher 6 in the embodiment 2. embodiment 1, The heights 6a are formed in the position corresponding to the taper part of the movable body 4 of the front frame 7 attached to the plastic frame 2 so that the edge of the liquid crystal panel 1 may be covered, as shown in drawing 3, By putting the front frame 7 on the liquid crystal panel 1, when the heights 6a push the taper surface of the movable body 4, the liquid crystal panel 1 is fixed to the plastic frame 2. Even if it does in this way, the same effect as Embodiment 1 is acquired.

[Translation done.]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is a perspective view showing the fixing device of the substrate by this embodiment of the invention 1.
[Drawing 2]It is a sectional view showing the fixing device of the substrate by this embodiment of the invention 1.
[Drawing 3]It is a sectional view showing the liquid crystal panel holding part of the liquid crystal display by this embodiment of the invention 2.
[Drawing 4]It is a perspective view showing the mounting structure of the liquid crystal panel of the conventional liquid crystal display.
[Drawing 5]It is a top view showing the mounting structure of the liquid crystal panel of the conventional liquid crystal display.
[Description of Notations]
1 A substrate (liquid crystal panel) and 2 [A pusher and 6a / Heights and 7 / A front frame, 8 TCP, and 9 / Heights and 10 / A back light unit, 11 printed circuit boards.] An attachment component (plastic frame) and 3 Heights and 4 A movable body, 5 flat spring, and 6

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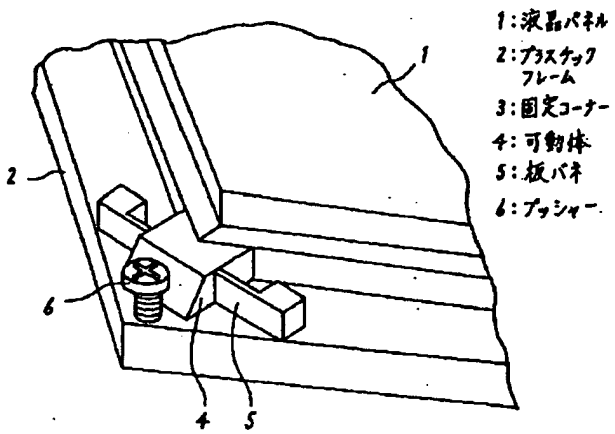
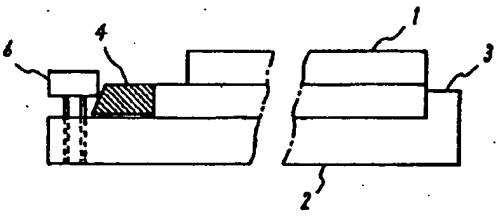
DRAWINGS

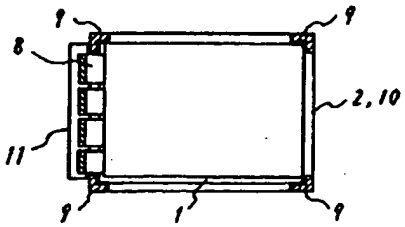
[Drawing 1]



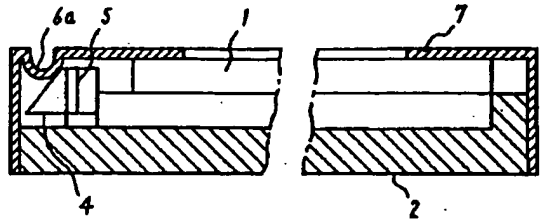
[Drawing 2]



[Drawing 5]

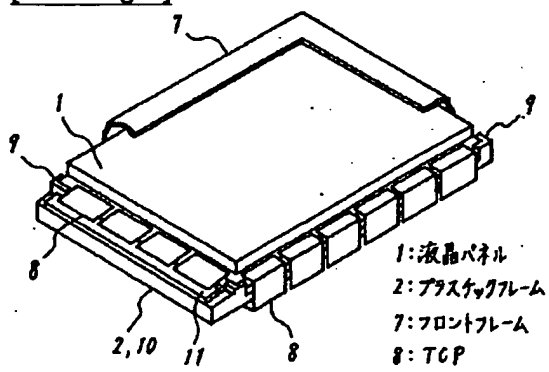


[Drawing 3]



1：液晶パネル
2：プラスチックフレーム
4：可動体
5：板バネ
6a：凸部
7：フロントフレーム

[Drawing 4]



1：液晶パネル
2：プラスチックフレーム
7：フロントフレーム
8：TCP
9：固定コーナー
10：バックライトユニット
11：プリント基板

[Translation done.]

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特開平9－311319

(43)公開日　平成９年(1997)12月２日

(51)Int.Cl.[6]		識別記号	庁内整理番号	ＦＩ			技術表示箇所
Ｇ０２Ｆ	1/1333			Ｃ０２Ｆ	1/1333		
	1/1345				1/1345		
Ｇ０９Ｆ	9/00	３４９		Ｃ０９Ｆ	9/00	３４９Ｃ	

審査請求　未請求　請求項の数６　ＯＬ　（全４頁）

(21)出願番号　特願平8－128799

(22)出願日　平成８年(1996)５月23日

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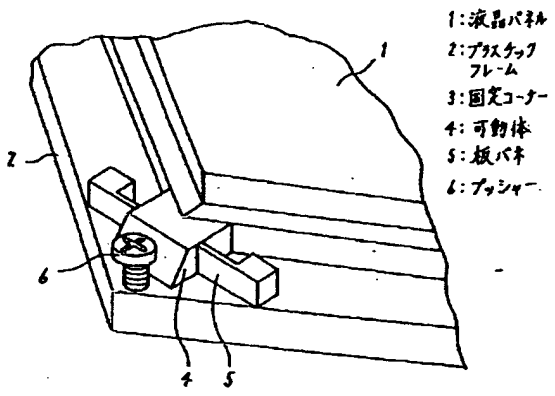
(54)【発明の名称】　基板の固定装置およびこれを備えた液晶表示装置

(57)【要約】

【課題】　基板を保持部に固定できる基板の固定装置、および液晶パネルがプラスチックフレームに固定され、液晶表示装置内で動かない液晶表示装置を提供する。

【解決手段】　保持部材（プラスチックフレーム）２の凸部３が設けられていない残り一隅に、基板（液晶パネル）１の隅部を保持する面と、その反対側に形成されたテーパー面を有している可動体４を設置し、このテーパー面をプッシャー５を用いて押すことにより、基板（液晶パネル）１を凸部３に押しつけて基板（液晶表パネル）１を保持部材（プラスチックフレーム２）に固定する。



【特許請求の範囲】
【請求項1】　基板を保持する保持面と基板の側面の一部が突合される凸部を有する保持部材、
上記保持部材の保持面上に配置され、一面が上記基板に突合される可動体、
上記可動体を上記保持部材の保持面に沿って摺動させて、上記基板を上記保持部材の凸部に押しつけることにより上記保持部材に固定するプッシャーを備えたことを特徴とする基板の固定装置。
【請求項2】　基板は四角形であって、三隅が保持部材の凸部に突合し、残りの一隅が可動体に突合されることを特徴とする請求項1記載の基板の固定装置。
【請求項3】　可動体は、基板の隅部を保持する面と、この面の反対側に形成され、プッシャーが係合する面を有していることを特徴とする請求項2記載の基板の固定装置。
【請求項4】　2枚の対向するガラス基板間に液晶材料を挟持し、四角形状に形成された液晶パネル、
上記液晶パネルを保持する保持面と液晶パネルの三隅が突合される凸部を有するフレーム、
上記フレームに配置され、上記液晶パネルの残り一隅に突合される可動体、
上記可動体を上記フレームの保持面に沿って摺動させて、上記液晶パネルを上記レームの凸部に押しつけることにより固定するプッシャーを備えたことを特徴とする液晶表示装置。
【請求項5】　プッシャーは、保持部材に螺着される汎用ねじであることを特徴とする請求項1～3のいずれか一項記載の基板の固定装置または請求項4記載の液晶表示装置。
【請求項6】　プッシャーは、液晶パネルの縁部を覆うようにフレームに取り付けられるフロントフレームに設けられた凸部であることを特徴とする請求項4記載の液晶表示装置。
【発明の詳細な説明】
【0001】
【発明の属する技術分野】この発明は、例えば液晶表示装置内に装着されている液晶パネル等の基板の固定装置に関するものである。
【0002】
【従来の技術】図4および図5は、液晶表示装置に液晶パネルを装着する場合の従来の装着構造を示す斜視図及び平面図である。図4、5において、1は液晶パネル、2は液晶パネル1を保持するプラスチックフレーム、7はフロントフレーム、8は液晶パネル1と接続されているTCP（Tape Carrier Package）、9はプラスチックフレーム2の四隅に設けられた液晶パネル1をはめ込むための凸部、10はプラスチックフレーム2とランプと導光体から構成されるバックライトユニット、11はプリント基板である。液晶パネル1はプラスチックフレーム2の四隅に形成された凸部9にはめ込まれて装着されている。
【0003】
【発明が解決しようとする課題】従来の液晶表示装置への液晶パネルの装着は以上のように構成されているので、液晶パネル1の外形寸法公差およびプラスチックフレーム2に設けられた凸部9の位置公差を加味してプラスチックフレーム2の凸部9は取り付けられているため、液晶パネル1と凸部9の間には隙間が生じ、液晶表示装置に振動や衝撃が加わった場合、液晶パネル1が液晶表示装置内で動くため、液晶パネル1とTCP8の接続部が断線するなど問題があった。
【0004】この発明は、上記のような問題を解決するためになされたもので、基板を保持部に容易に固定できる基板の固定装置、および、液晶パネルをプラスチックフレームに固定でき、振動や衝撃により不良が生じない液晶表示装置を提供することを目的とする。
【0005】
【課題を解決するための手段】この発明に係わる基板の固定装置は、基板を保持する保持面と基板の側面の一部が突合される凸部を有する保持部材と、保持部材の保持面上に配置され、一面が基板に突合される可動体と、可動体を保持部材の保持面に沿って摺動させて、基板を保持部材の凸部に押しつけることにより保持部材に固定するプッシャーを備えたものである。また、基板は四角形であって、三隅が保持部材の凸部に突合し、残りの一隅が可動体に突合されるものである。また、可動体は、基板の隅部を保持する面と、この面の反対側に形成され、プッシャーが係合する面を有しているものである。また、液晶表示装置は、2枚の対向するガラス基板間に液晶材料を挟持し、四角形状に形成された液晶パネルと、液晶パネルを保持する保持面と液晶パネルの三隅が突合される凸部を有するフレームと、フレームに配置され、液晶パネルの残り一隅に突合される可動体と、可動体をフレームの保持面に沿って摺動させて、液晶パネルをフレームの凸部に押しつけることにより固定するプッシャーを備えたものである。また、プッシャーは、保持部材に螺着される汎用ねじである。また、プッシャーは、液晶パネルの縁部を覆うようにフレームに取り付けられるフロントフレームに設けられた凸部である。
【0006】
【発明の実施の形態】
実施の形態1．以下、この発明の一実施の形態である基板（本実施の形態では液晶パネル）の固定装置を図について説明する。図1および図2は本発明の液晶パネルの固定部分を示す斜視図および断面図である。図において、1は基板（液晶パネル）、2は液晶パネル1を保持する保持部材（プラスチックフレーム）、3はプラスチックフレーム2の三隅に設けられた凸部、4はプラスチックフレーム2の保持面に沿って摺動可能なように構成

された可動体で、プラスチックフレーム２の四隅において凸部３が設けられていない残り一隅に設置され、液晶パネル１の隅部を保持する面と、その反対側にテーパー面を有している。５は可動体４を支持する板ばね、６は可動体４のテーパー面に係合されたプッシャーで、ここでは頭部に十字溝の付いた汎用ねじを用い、プラスチックフレーム２に形成されたねじ穴に螺着されるよう構成されている。次に本実施の形態による液晶パネル１の固定について説明する。液晶パネル１をプラスチックフレーム２に装着する場合、まずプラスチックフレーム２の三隅に設けられた凸部３に合わせて液晶パネル１をはめ込み、次にプッシャー６をプラスチックフレーム２に螺着することにより、可動体４のテーパー面がプラスチックフレーム２に対し水平方向の力を受けて液晶パネル１を凸部３に押しつけ、その結果液晶パネル１はプラスチックフレーム２に固定される。

【０００７】この発明によれば、基板を保持部に固定することができるので、液晶パネル１がプラスチックフレーム２に固定され、液晶表示装置に振動や衝撃が加わった場合においても、液晶パネル１が液晶表示装置内で動かず、液晶パネル１の破損や駆動部との接続部の断線を防止することができる。

【０００８】実施の形態２．実施の形態１では、プッシャー６に汎用ねじを用いたが、図３に示すように液晶パネル１の縁部を覆うようにプラスチックフレーム２に取付けられるフロントフレーム７の可動体４のテーパー部分に対応する位置に凸部６ａを設けて、フロントフレーム７を液晶パネル１に被せることにより凸部６ａが可動体４のテーパー面を押すことによって液晶パネル１をプラスチックフレーム２に固定する。このようにしても実施の形態１と同様の効果が得られる。

【０００９】

【発明の効果】以上のように、この発明によれば、基板を保持部に容易に固定することができる。また、液晶パネルをプラスチックフレームに固定できるため、振動や衝撃による液晶パネルの液晶表示装置内での移動が生じず、液晶パネルの破損や駆動部との接続部の断線等の不良を防止し、信頼性の高い液晶表示装置を提供することができる。

【図面の簡単な説明】

【図１】　この発明の実施の形態１による基板の固定装置を示す斜視図である。

【図２】　この発明の実施の形態１による基板の固定装置を示す断面図である。

【図３】　この発明の実施の形態２による液晶表示装置の液晶パネル固定部を示す断面図である。

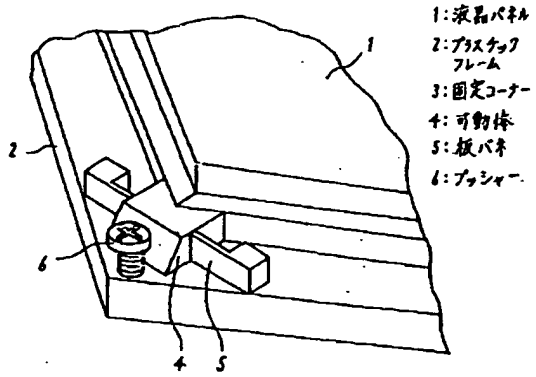
【図４】　従来の液晶表示装置の液晶パネルの装着構造を示す斜視図である。

【図５】　従来の液晶表示装置の液晶パネルの装着構造を示す平面図である。

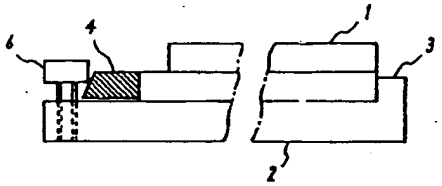
【符号の説明】

１　基板（液晶パネル）、２　保持部材（プラスチックフレーム）、３　凸部、４　可動体、５　板ばね、６　プッシャー、６ａ　凸部、７　フロントフレーム、８　ＴＣＰ、９　凸部、１０　バックライトユニット、１１　プリント基板。

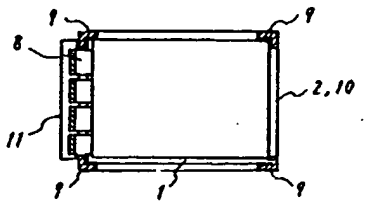
【図1】



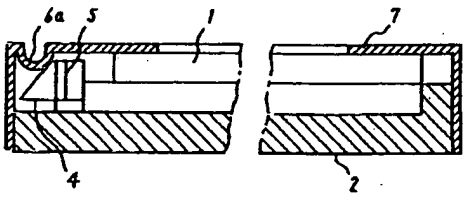
【図2】



【図5】

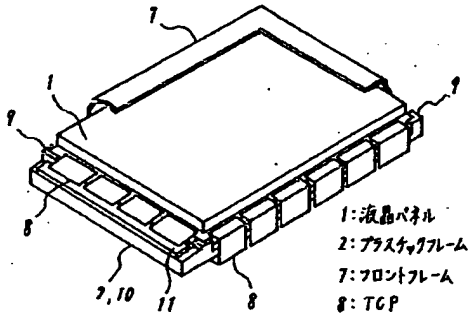


【図3】



1：液晶パネル　　5：板バネ
2：プラスチックフレーム　　6a：凸部
4：可動体　　7：フロントフレーム

【図4】



1：液晶パネル
2：プラスチックフレーム
7：フロントフレーム
8：TCP
9：固定コーナー
10：バックライトユニット
11：プリント基板